STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1445 North Orchard • Boise, Idaho 83706 • (208) 373-0550

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

November 1, 2010

Vicki Thurber, Mayor
City of Middleton
6 No. Dewey Ave
PO Box 487
Middleton, ID 83644

RE: NPDES Permit Inspection (Permit No. ID 002183-1)
City of Middleton Municipal Wastewater Treatment Plant

Dear Ms. Thurber:

On October 5, 2010, on behalf of the Environmental Protection Agency (EPA), the Idaho Department of Environmental Quality (DEQ) conducted a National Pollutant Discharge Elimination System (NPDES) compliance inspection of the City of Middleton Municipal Wastewater Treatment Plant.

No deficiencies were noted during this inspection, and all of the deficiencies noted during the previous inspection on December 13, 2007 have been addressed. A description of the inspection is provided in the enclosed NPDES Compliance Inspection Report.

The following list is provided to call attention to certain items discussed during the inspection and in the enclosed report.

- The city's permit expired on November 2, 2004, and a renewal application was submitted on May 16, 2006. I neglected to ask during the inspection if a copy of the letter in which EPA administratively extended the permit was kept onsite, and we do not have a copy at DEQ. The city should ensure that a copy of the permit renewal application and the extension letter are on file and available.
- It was noted that the weekly BOD_5 and TSS composite samples appear to typically arrive at the lab at temperatures between 6°C and 10°C. It was also noted that the temperature in the refrigerator was not recorded. It is suggested that a thermometer in a water bath be utilized to measure the temperature in the refrigerator, and that it be kept around 4-5°C, which is the typical holding temperature for composite samplers.
- During the previous inspection on December 13, 2007, DEQ noted that the ambient monitoring requirements for the Boise River upstream of the discharge point, as outlined in Section I.B.5, were no longer in effect and that the city no longer needed to collect this data. Therefore, the city ceased to collect this data. However, during this inspection it was recognized that this was an error. While the majority of the constituents do not need monitored, the city should reinstitute monthly sample collection of pH and temperature upstream of the discharge point.

- At the time of the inspection, a copy of the Quality Assurance Plan of their contract lab, Analytical Laboratories Inc. was not available. However Mr. Schmillen telephoned me later that week to say that he had located it, and he also sent a follow up letter stating this to EPA on October 15, 2010.

We appreciate your assistance with completing the facility inspection. Thank you and your staff for being available and prepared, and for sharing details about your plant operations and NPDES permit. Please call me at 373-0550 if you have any questions or comments regarding this report.

Sincerely,

Valerie A. Greear, P.E.
Staff Engineer

VG:vee

Enclosures: NPDES Compliance Inspection Report and Photo Log

c: Bob Schmillen, Operator (with NPDES Compliance Inspection Report)
ec: Todd Crutcher P.E., DEQ Boise Regional Office (with NPDES Compliance Inspection Report)
Rick Huddleston, P.E., DEQ State Office (with NPDES Compliance Inspection Report)
Lindsey Stanton, DEQ State Office (with enclosures)
Maria Lopez, EPA-Boise Field Office (with enclosures and EPA Form 3560-3)
Trim No. 2010AGF2309

NPDES Compliance Inspection Report

FACILITY:	City of Middleton Wastewater Treatment Plant Permit ID-002183-1, administratively extended
ADDRESS:	6 No. Dewey Ave Middleton, ID 83644
FACILITY CONTACTS:	Bob Schmillen, Operator Phone: 208-585-6611 Fax: 208-585-9601
RESPONSIBLE OFFICIAL:	Vicki Thurber, Mayor
INSPECTION DATE:	October 5, 2010
REPORT DATE:	November 1, 2010
INSPECTOR:	Valerie Greear, Idaho DEQ

Entry:

At 10:00 a.m. on October 5, 2010, I arrived at the City Hall in Middleton. I was accompanied by Todd Crutcher, also of DEQ. We met with Mr. Bob Schmillen, Responsible Charge Operator, and Mr. Brad Green, Secondary Responsible Charge Operator. We discussed the city's NPDES permit, the plant operations, and any changes, upgrades, upsets, or violations. We also checked the plant's recordkeeping, and conducted a walkthrough of the treatment facilities.

Description of Facility:

The wastewater treatment facility consists of a lagoon divided into four basins. The first three basins are aerated, with each sequential basin having fewer aerators than the previous. The last basin is for settling and polishing. Disinfection is accomplished by a UV system. The effluent is discharged to the Mill Slough, which is a tributary to the Boise River a short distance away. An aerial photograph of the wastewater treatment facilities is included in this report.

Inspection Findings:

Permit

The city's permit expired on November 2, 2004, and they submitted a renewal application on May 16, 2006. I neglected to ask during the inspection if they had a copy of the letter in which EPA administratively extended the permit, and we do not have a copy at DEQ. The city should ensure that a copy of the application and the extension letter are both on record at the city hall. There was a copy of the permit at city hall (Figure 2) and in the operations building at the wastewater treatment site (Figure 21).

DMRs

The DMRs, COCs, and lab sheets are kept at the city hall (Figure 1).

A post-inspection review of the May, 2010 and June, 2010 DMRs and lab analysis reports indicates that all data reported are being calculated correctly. The city contracts with Analytical Laboratories, Inc., who fill out the DMRs.

During the month of May, the city conducted a sludge removal operation of their lagoon. This is discussed in the cover letter of both the May and June DMRs. During these months, they experienced high BOD_5 concentrations in the effluent, and they have attributed this to the sludge removal and normal spring turnover. A graph of the BOD_5 concentrations from the EPA compliance database Enforcement & Compliance History Online (ECHO) is included at the end of this document, where historical seasonal trends can be seen. This summer however, the BOD_5 concentration levels have remained high, which may be due to sediment removal. The city has not exceeded their loading rate limits, and has several former lagoons that they can use as backup for off-specification effluent (Figure 34).

Sampling and Lab Reports

The city contracts with Analytical Laboratory, Inc, who analyzes the samples and fills out their DMRs. Samples are taken from a port at the end of the UV chamber, shown in Figure 20.

Five Fecal Coliform samples are required to be taken per week, and these are taken each weekday morning and transported to the lab. It was noted during the previous inspection that during holiday weeks, the facility was not collecting the required number of samples. During holiday weeks now, they take two in one day, as can be seen on the sample record sheet in Figure 22.

It was noted that the weekly BOD_5 and TSS composite samples appear to typically arrive at the lab at temperatures between 6°C and 10°C. It was also noted that the temperature in the refrigerator was not recorded. It is suggested that a thermometer in a water bath be utilized to measure the temperature in the refrigerator, and that it be kept around 4-5°C, which is the typical holding temperature for composite samplers.

During the previous inspection on December 13, 2007, DEQ noted that the ambient monitoring requirements for the Boise River upstream of the discharge point, as outlined in Section I.B.5, were no longer in effect and that the city no longer needed to collect this data. Therefore, the city ceased to collect this data. However, during this inspection it was realized that this was an error, and while the majority of the constituents do not need monitored, monthly samples of pH and temperature should still be taken and recorded.

The onsite laboratory for pH and DO is shown in Figures 23 and 24.

Flow is measured prior to UV disinfection, and is automatically recorded as shown in Figure 19. At the time of the inspection, flow was 213 gpm. The previous inspection noted that the flow measurement devices had not been calibrated. Figure 28 shows that the ultrasonic flow meter was calibrated on May 26, 2010.

Record Keeping

The city appears to have their record keeping in order. Figure 1 shows DMR and the associated lab records, and it was stated that archived files are also located at City Hall. Figures 2 and 21 show copies of the permit in City Hall and at the operations building at the treatment plant. There were Operations and Maintenance Manuals at City Hall (Figures 3, 4), in the UV building (Figure 18), and in the operations building (Figures 25, 26). Process monitoring records are shown in Figure 17, and the SCADA screen for the UV system and flow measurement is shown in Figure 18. The sample collection record sheet is seen in Figure 22, and the Quality Assurance Plan (QAP) is seen in Figure 27, both of which were in the operations building.

At the time of the inspection, they did not have the QAP of their contract lab, Analytical Laboratories Inc. However Mr. Schmillen telephoned me later that week to say that they had located it, and sent a follow up letter stating this to EPA on October 15, 2010.

Facility Inspection and Site Review

Following the records and permit review at the City Hall, we visited the wastewater treatment plant. Wastewater flows to the influent pump station from two main lines (Figure 5). The water is not screened, and is discharged directly into the lagoon (Figure 7). The lagoon is divided into four cells (Figure 6); the first three are aerated (Figures 8-11) and the final one is for polishing and settling (Figure 12). Effluent flow is measured via an ultrasonic flow meter prior to UV disinfection (Figure 13) and is reported via a SCADA system (Figure 19) and recorded daily (Figure 17).

Following UV disinfection (Figure 16, 20) effluent flows to the Mill Slough, which discharges to the Boise River a short distance past the discharge point (Figures 29-32).

There were minimal odors at the wastewater treatment plant, and the operators indicated that they receive no odor complaints.

Emergency Operation

The UV system has a propane generator for standby power generation (Figures 14-15). The blowers for the aerators would not be operable during a power outage (Figure 33), and the system gravity flows to the river. The facility has a SCADA system which radio calls an operator in the event of a power outage, and the facility has the option of diverting flow to one of the former treatment ponds onsite.

There are seven lift stations in the city's collection system, with natural gas emergency generators.

Exit:
We left the City of Middleton Wastewater Treatment Plant at 12:30 p.m.

Attachments: EPA Form 3560-3

Valerie A. Greear

11/1/10
Date

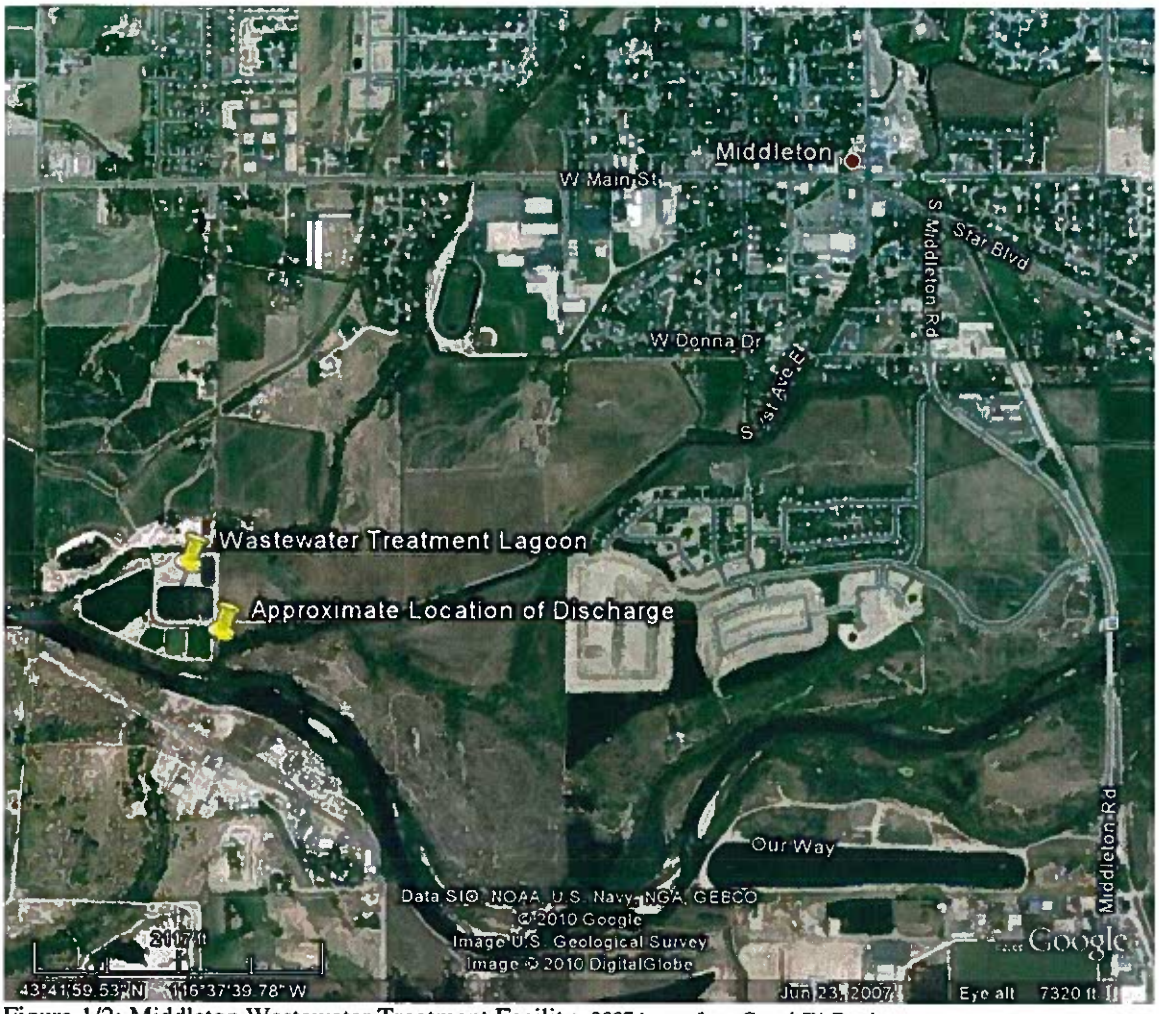
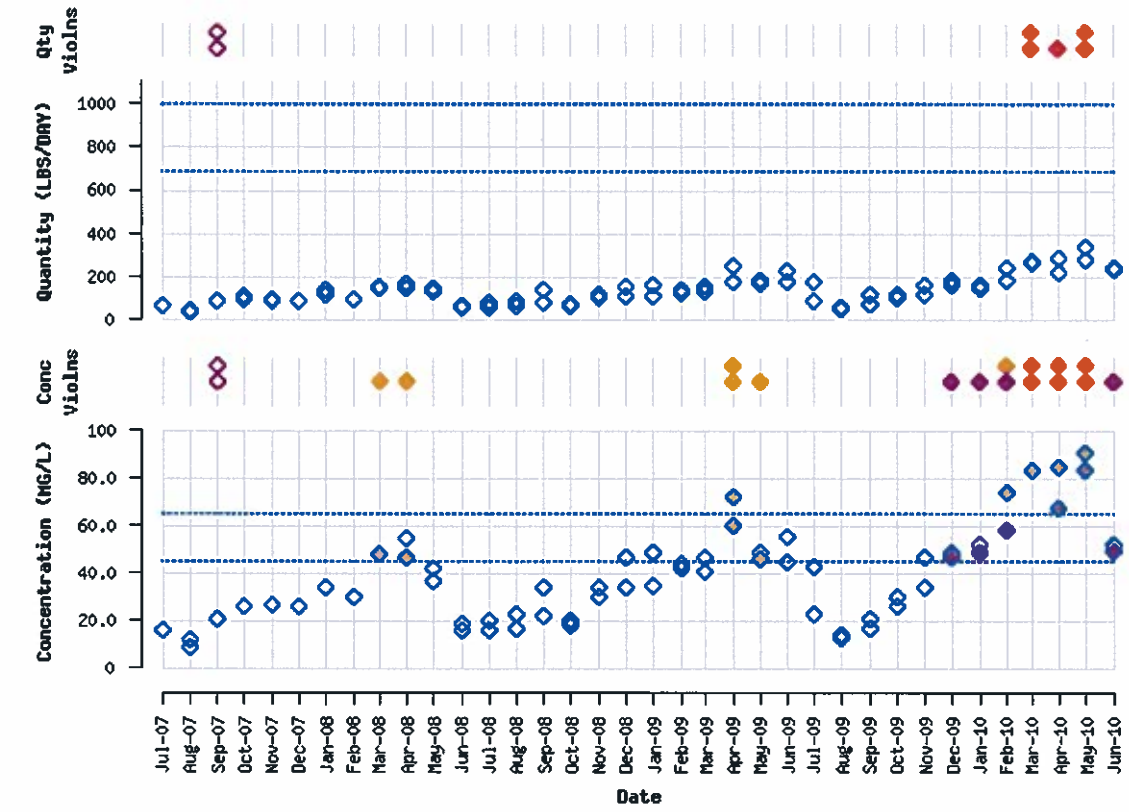
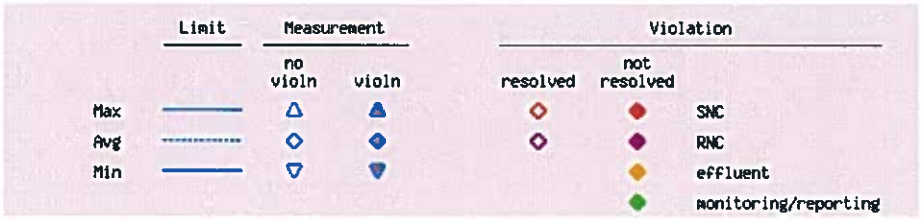


Figure 1/2: Middleton Wastewater Treatment Facility. *2007 image from Google™ Earth*

BOD, 5-day, 20 deg. C

Parameter	Discharge Point	Monitoring Location	Sampling Period
BOD, 5-day, 20 deg. C	001	Effluent gross	Monthly





SNC: Significant Non-Compliance
RNC: Reportable Non-Compliance

Figure 2/2: BOD5 compliance chart from EPA's ECHO compliance site.
http://www.epa-echo.gov/cgi-bin/get1cReport.cgi?tool=echo&IDNumber=ID0021831